REMARKS/ARGUMENTS

Claims 1-20 are all the claims currently pending in the present application. Based on the following remarks, Applicant requests reconsideration of the application and allowance of the claims.

I. Statement of Substance of Interview

Applicant's undersigned attorney conducted a telephone interview with Examiner Erin File on March 9, 2007. While no formal agreement was reached regarding the rejections of the claims, Applicant thanks Examiner File for taking the time to participate in the interview.

II. Rejection of Claims 1, 4, 6, 7, 11, 14-19 under 35 U.S.C. § 102(e)

Claims 1, 4, 6, 7, 11, 14-19 stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by Das et al. (U.S. Patent Publn. No. 2003/0148770; hereinafter "Das").

Claim 1 requires a radio communication system having a multiple-antenna transmitter that selectably transmits data at least from a first transmit antenna transducer and at least a second transmit antenna transducer for communication to a receiver, the data encoded at an encoder to include *a systematic part* and *a non-systematic part*, ..." comprising, *inter alia*, "a determiner at least adapted to receive indications of channel conditions ..." and "a data assignor *coupled to said determiner* to receive indications of determinations made thereat." Further claim 1 recites that the "assignor for *assigning the systematic part of the data encoded by the encoder* to at least one of the first and at least second transmit antenna transducers [that] exhibits better channel qualities."

Applicant respectfully submits that Das does not teach or suggest at least the above recitations of claim 1. In rejecting claim 1, the Examiner suggests that the feedback decoder 119 corresponds to the claimed determiner and suggests that the weight generator 116 as well as the scheduler 118 correspond to the claimed data assignor. (See pg. 4 of the Office Action) Applicant respectfully disagrees.

In contrast to claim 1, Das relates generally to an improved performance of closed loop transmit diversity (CLTD) system by encoding antenna control information fed back from a mobile station 120 to a base station 110. (See FIG. 1) Das discloses that a base station 110 may have multiple antennas (e.g., 112_1 & 112_2) which receive signals from a transmitter 114. The transmitter 114 includes a channel encoder 111 which receives and encodes signals, such as

control and data signals, for transmission to the mobile station 120 via one of the antennas 112. (Paragraph [0026] of Das) The mobile station determines channel quality based on the received signals, via a channel quality estimator 126. (Paragraph [0028] of Das) The mobile station generates a feedback message containing channel quality information (CQI) and/or antenna control information (ACI) which is transmitted to the base station, via a common feedback channel 134. (Paragraph [0032] of Das) The base station 110 may receive and process the feedback message to extract the feedback information (FBI), via a feedback decoder 119, so that the FBI can be used "to control future transmissions to the mobile station." (Paragraph [0037] of Das) If the FBI contains CQI, Das teaches that the base station schedules and selects transport format of "future transmissions." (Paragraph [0046] of Das)

As an initial matter, Applicant points out that the Examiner has not responded to the arguments set forth specifically at pages 8-9 of the Amendment filed on August 1, 2006 that the antenna weight generator 116 and the scheduler 118 of Das does not teach or suggest the claimed data assignor. Specifically, Applicant noted that Das, at best, merely discloses that the antenna weight generator 116 "generates a set of antenna weights [i.e., W_1 and W_2] based on extracted ACI bits" that may be "applied at weight multipliers 115 for future transmissions from antennas 112" and that the scheduler 118 "schedules and selects transport format (TF)" "of future transmissions using the extracted channel quality information." (Paragraphs [0045] & [0046] of Das) As can be seen in FIG. 1 of Das, the antenna weights W_1 and W_2 generated by weight generator 116 are applied to weight multipliers 115_1 and 115_2 in order to adjust the phase and/or amplitude of signals at antenna 112. There is no teaching or suggestion in Das, and the Examiner cites to none, relating to the weight generator 116 and the scheduler 118 (i.e., alleged data assignor), being coupled to a determiner (i.e., alleged feedback decoder 119, See pg. 4 of the Office Action) that assigns different parts of data received at the channel encoder 111 to different antennas 112_1 and 112_2. Quite the contrary, the weight generator 116 and the scheduler 118 (i.e., alleged data assignor) of Das does not assign data received at the channel encoder to antennas 112. As such, Applicant again submits that Das does not teach or suggest that the antenna weight generator 116 and scheduler 118 (i.e., alleged data assignor) assigns a systematic part of encoded data to one of the antennas 112 which has a better channel quality, as required by claim

1. The interrelationship of elements is simply not met by Das.[1] In the *Response to the Arguments* section of the Office Action (See pgs. 2-3 of the Office Action), the Examiner has not addressed the above mentioned arguments. Instead, the Examiner merely repeats verbatim, the arguments presented in the Office Action dated April 14, 2006, namely that the antenna weight generator 116 and scheduler 118 correspond to the claimed data assignor. (See pg. 2 of the Office Action dated April 14, 2006 & pg. 4 of the current Office Action in which the Examiner alleges that Das "discloses a data assignor (fig. 1, 116, 118)") However, MPEP §707.07(f) requires that "[w]here the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it." (emphasis added) Accordingly, Applicant submits that the arguments presented in the Amendment filed August 1, 2006 remain rebutted, and Applicant submits that independent claim 1 is allowable *at least* for those reasons previously of record as well as for the foregoing reasons.

Additionally, in the Amendment filed August 1, 2006, Applicant pointed out to the Examiner that Das, at best, discloses a wireless communications system 100 (See FIG. 1) having a base station 110 with a transmitter 114 that includes a channel encoder 111 which receives and encodes signals, such as control and data signals for transmission to a mobile station 120 via one of the antennas 112. (Paragraph [0026] of Das) It was further argued that the control and data signals encoded by channel encoder 111 of Das does not teach or suggest "data encoded at an encoder to include a systematic part and non-systematic part," as required by claim 1. In the *Response to Arguments* section of the Final Office Action, the Examiner maintains the rejection and merely asserts that the above recitations were "not ... given patentable weight because the recitations occur in the preamble." (See pg. 2 of the Office Action) The Examiner suggests that the preamble was not given patentable weight because "the body of the claim [allegedly] does not depend on the preamble for completeness." (See *id.*) Applicant disagrees and point outs to the Examiner that MPEP § 2111.02, which guides the Examiner in such matters, mandates that "[i]f the claim preamble, when read in the context of the entire claim, *recites limitations* of the claim, or, if the ... preamble is 'necessary to *give ... meaning*, ... to the claim, then the claim preamble should be construed as if *in ... the claim.*" (emphasis added) Applicant notes that the

[1] See MPEP § 2131 explaining that "[t]he elements must be arranged as required by the claim." (emphasis added)

preamble of claim 1 (and similarly claim 15) recites "a radio communication system ... that ... transmits *data ... the* data encoded at an encoder to include *a systematic part* and *a non-systematic part*." In view of this claim recitation, Applicant submits that the recitations in the preamble of claim 1, defines and limits the claimed data and adds meaning to the body of the claim which refers back to the preamble and in which provides antecedent basis for "the systematic part of *the data* encoded by the encoder," as recited by claim 1. If the claim drafter uses both the preamble and the body, as in this case, to define the subject matter of the claimed invention, limitations set forth in the preamble may be used to define the proper bounds of the claim. See *Bell Communications Research, Inc.*, 55 F.3d at 620. Moreover, as noted in *Catalina Marketing Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801 (Fed. Cir. 2002), the dependence on a preamble phrase for antecedent basis may cause the preamble phrase to be considered a limitation since the reliance upon the preamble phrase to provide proper antecedent basis for subsequent use of the phrase in the claim body indicates a reliance on both the preamble and the claim body to define the claimed invention pursuant to the test annunciated in *Bell Communications Research, Inc.*, 55 F 3d at 620. See also; *Eaton Corp. v. Rockwell Int'l Corp.*, 323 F.3d 1332 (Fed. Cir. 2003); *Electro Scientific Indus., Inc. v. Dynamic Details, Inc.*, 307 F.3d 1343 (Fed. Cir. 2002); and *Gerber Garment Tech. Inc. v. Lectra Sys., Inc.*, 916 F.2d 683 (Fed. Cir. 1990). In view of the foregoing, Applicant submits that the recitation of "*the* data encoded at an encoder to include *a systematic part* and *a non-systematic part*" should be construed as if in claim 1.

Additionally, as pointed out in the Amendment dated August 1, 2006, there simply is no teaching or suggestion in Das that the channel encoder 111 disclosed therein encodes data having a systematic part and a non-systematic part. In rejecting claim 1, the Examiner suggests the data signal i.e., "data input (fig. 1, 114)" corresponds to the claimed systematic data and correctly concedes that the data signal is "not parity information" i.e., non-systematic data. (See pg. 3 of the Office Action) Even assuming *arguendo* that the data signal encoded by channel encoder 111 is a systematic part, Das still does not teach or suggest all of the features of claim 1. Nowhere in Das is there any teaching or suggestion that the control signal of Das encoded by channel encoder 111 is a non-systematic part of the data encoded by the channel encoder 111, as required by claim 1. Applicant again points out to the Examiner that the control signals sent

from base station 110 are, at best, merely signals to control a mobile station, such as mobile station 120. As shown on page 9, lines 27-28 of the specification and pointed out in the Amendment filed August 1, 2006, skilled artisans clearly understand that a non-systematic part of encoded data is formed of parity data (or bits) or other non-systematic data. There simply is no teaching or suggestion in Das that the control signals of Das, which are encoded by channel encoder 111, are formed of non-systematic data such as parity data. As such, Applicant again submit that Das does not teach or suggest at least "data encoded at an encoder to include a systematic part *and non-systematic part*," as required be claim 1.

Based on at least the foregoing, Applicant submits that Das does not teach or suggest all of the features of claim 1. Applicant therefore respectfully requests the Examiner to reconsider and withdraw the § 102(e) rejection of claim 1 and its dependent claims 2-7 and 9-14.

Since claim 15 contains features that are analogous to, though not necessarily coextensive with, the features recited in claim 1, Applicant respectfully requests the Examiner to reconsider and withdraw the § 102(e) rejection of claim 15 and its dependent claims 16, 17, 18, 19 and 20 for reasons analogous to those submitted for independent claim 1.

With further regard, to claim 6, Applicant submits that claim 6 recites independently patentable subject matter given that Das fails to teach or suggest "the data encoded at an encoder to include ... a non-systematic part," "wherein the non-systematic part ... comprises a parity part and wherein said data assignor further assigns the parity part of the data encoded by the encoder to at least another of the at least one of the first and at least second transmit antenna transducers," as required by claim 6 in combination with other elements of the claims. Contrary to the Examiner's general allegation, paragraph [0079], at best, merely discloses that the system 100 of Das may detect feedback errors using cyclic redundancy checks (CRC) or "other types of checksums [such as] parity bits." Paragraph [0078] explains that the CRCs are used by the mobile station 720 "using different combinations of antenna weights" as an alternative to calculating signal to noise ratios (SNR) so as to "detect/correct feedback errors in a CLTD" system. (See paragraph [0079] & FIG. 12) At best, Das discloses that the CRCs or parity bits are generated by the mobile station 720 and provided to the base station 710 in a feedback loop to correct errors. However, there is simply no teaching or suggestion that the control data signals, the data signals or any other signal encoded by channel encoder 111 comprises a parity

part that is assigned to an antenna 112_1, 112_2, which is different from the antenna 112_1, 112_2 in which a systematic part is assigned, as required by claim 6 in combination with other elements of the claims. Contrary to the Examiner's general allegation, since Das fails to teach or suggest the "non-systematic part ... comprises a parity part," Das also fails to teach or suggest "the other of the at least one ... antenna transducers to which said ... assignor assigns the parity part ... exhibits poorer channel qualities," as required by claim 7. Paragraphs [0079] and [0080] relied on by the Examiner, at best, discloses that the CRC or a parity bit may be generated at the mobile station 720 in antenna control information (ACI) and sent to the base station 720 to correct errors using antenna weights. Even assuming *arguendo* that the weighting is based on channel qualities, there is no teaching or suggestion relating to the parity data of the encoded data being transmitted on an antenna which exhibits poorer channel qualities than the antenna in which the systematic part is transmitted, as claimed.

For at least the foregoing reasons, Applicant respectfully submits that Das does not teach or suggest the features of claims 6 and 7 and respectfully requests the Examiner to reconsider and withdraw the § 102(e) rejection of claims 6 and 7.

III. Rejection of Claims 3, 12 and 20 under 35 U.S.C. § 103(a)

Claims 3, 12 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Das and further in view of Kuchi et al. (U.S. Patent No. 6,185,266; hereinafter "Kuchi"). Applicant respectfully traverses this rejection for at least the following reasons.

As discussed above, Das is deficient vis-à-vis independent claim 1 and independent claim 15. Kuchi does not compensate for the deficiencies of Das. Accordingly, claims 3, 12 and 20 are patentable at least by virtue of their respective dependencies from claim 1 and claim 15. Applicant therefore respectfully requests the Examiner to reconsider and withdraw the § 103(a) rejection of dependent claims 3, 12 and 20.

IV. Rejection of Claims 2, 5, 9, 10 and 13 under 35 U.S.C. § 103(a)

Claims 2, 5, 9, 10 and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Das and further in view of Kim et al. (U.S. Patent No. 7,016,658; hereinafter "Kim"). Applicant respectfully traverses this rejection for at least the following reasons.

As discussed above, Das is deficient vis-à-vis independent claim 1. Kim does not compensate for the deficiencies of Das. Accordingly, claims 2, 5, 9, 10 and 13 are patentable at

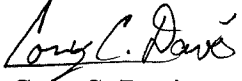
least by virtue of their dependency from claim 1. Applicant therefore respectfully requests the Examiner to reconsider and withdraw the § 103(a) rejection of dependent claims 2, 5, 9, 10 and 13.

V. Conclusion

In view of the foregoing remarks, Applicant respectfully submits that all of the claims of the present application are in condition for allowance. It is respectfully requested that a Notice of Allowance be issued in due course. Examiner File is encouraged to contact Applicant's undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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